Sprawozdanie 6 – Programowanie Obiektowe

Wykonał: Łukasz Borsuk Automatyka i Robotyka Gr. 1

1. Klasa LoginPanel

```
package com.baselukasz.ui;

import com.baselukasz.core.User;
import com.baselukasz.dao.DBConnection;
import com.jgoodies.forms.factories.FormFactory;
import com.jgoodies.forms.layout.ColumnSpec;
import com.jgoodies.forms.layout.FormLayout;
import com.jgoodies.forms.layout.RowSpec;
import org.jasypt.digest.config.SimpleDigesterConfig;
import org.jasypt.util.password.ConfigurablePasswordEncryptor;

import javax.swing.*;
import javax.swing.border.EmptyBorder;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
import java.sql.ResultSet;
import java.sql.SQLException;

public class LoginPanel extends JFrame implements ActionListener {

    private static final long serialVersionUID = 1L;

    private DBConnection con;
    private User user;

    private JPanel userPanel;

    private JTextField username;
    private JPasswordField password;

    private JButton confirm;
    private JButton cancel;


    public LoginPanel(DBConnection conInit){
        con = conInit;

        // Reakcja na zamkniecie okna
        this.addWindowListener(new WindowAdapter() {
            @Override
            public void windowClosing(WindowEvent e) {
                con.disconnect(true, null);
                System.exit(0);
            }
        });
        setTitle("Panel logowania");
        setBounds(100,100,450,168);

        // Utworzenie layoutu
        getContentPane().setLayout(new BorderLayout());
        userPanel = new JPanel();
```

```
        userPanel.setBorder(new EmptyBorder(5,5,5,5));
        getContentPane().add(userPanel, BorderLayout.CENTER);
        userPanel.setLayout(new FormLayout(new ColumnSpec[]{
                FormFactory.RELATED_GAP_COLSPEC,
                FormFactory.DEFAULT_COLSPEC,
                FormFactory.RELATED_GAP_COLSPEC,
                ColumnSpec.decode("default:grow")
            },
            new RowSpec[]{
                FormFactory.RELATED_GAP_ROWSPEC,
                FormFactory.DEFAULT_ROWSPEC,
                FormFactory.RELATED_GAP_ROWSPEC,
                FormFactory.DEFAULT_ROWSPEC,
            }
            ));

        // Dane uzytkownika
        JLabel lblUser = new JLabel("Nazwa");
        // dodanie do pola JPanel etykietki z prawej
        userPanel.add(lblUser, "2, 2, right, default");
        username = new JTextField();
        // dodanie do pola JPanel pola tekstowego wypełniającego komórkę
        userPanel.add(username, "4, 2, fill, default");

        // Dane haslo
        JLabel lblPassword = new JLabel("Haslo");
        // dodanie do pola JPanel etykietki z prawej
        userPanel.add(lblPassword, "2, 4, right, default");
        password = new JPasswordField();
        // dodanie do pola JPanel pola tekstowego wypełniającego komórkę
        userPanel.add(password, "4, 4, fill, default");

        // Panel z przyciskami
        JPanel buttonPane = new JPanel();
        buttonPane.setLayout(new FlowLayout(FlowLayout.RIGHT));
        getContentPane().add(buttonPane, BorderLayout.SOUTH);

        // Przycisk potwierdzajacy wprowadzone dane
        confirm = new JButton("Potwierdz");
        confirm.addActionListener(this);
        confirm.setActionCommand("Potwierdz");
        buttonPane.add(confirm);

        // Przycisk zamykajacy okno
        cancel = new JButton("Anuluj");
        cancel.addActionListener(this);
        cancel.setActionCommand("Anuluj");
        buttonPane.add(cancel);
    }

    public void setCon(DBConnection conInit){
        con = conInit;
    }

    public boolean checkLoginData() {

        SimpleDigesterConfig md5Config = new SimpleDigesterConfig();
        md5Config.setAlgorithm("MD5");
        md5Config.setIterations(1);
        md5Config.setSaltSizeBytes(0);
```

```
        ConfigurablePasswordEncryptor md5Encryptor = new
ConfigurablePasswordEncryptor();
        md5Encryptor.setConfig(md5Config);
        md5Encryptor.setStringOutputType("hexadecimal");

        String encryptedPassword = md5Encryptor.encryptPassword( new
String(password.getPassword()));

        String Query = "SELECT * FROM Users WHERE Users.name =
'"+username.getText()+"' AND Users.password = '"+encryptedPassword+"'";
       // String Query = "SELECT * FROM Users WHERE Users.name =
'"+username.getText()+"'";

        ResultSet rs = con.load(Query);
        if(rs != null){
            try{
                if(rs.next()) {
                    int id = rs.getInt("id");
                    String nazwa = rs.getString("name");
                    String haslo = rs.getString("password");
                    user = new User(id, nazwa, haslo);
                    con.destroyRS(rs);
                    return true;
                }
                else
                {
                    con.destroyRS(rs);
                    return false;
                }
            } catch (SQLException e) {
                System.out.println("SprawdzDane: Problem z przetworzeniem
danych");
                System.out.println("SQLException: " + e.getMessage());
                System.out.println("SQLState: " + e.getSQLState());
                System.out.println("Vendor Error: " + e.getErrorCode());
                return false;
            }
        }
        else{
            return false;
        }
    }

    private void login() {
        // Ukryj okno
        setVisible(false);
        dispose();

        // Otworz okienko glowne aplikacji
        TaskList ts = new TaskList(con, user);
        ts.setVisible(true);
    }

    @Override
    public void actionPerformed(ActionEvent e) {
        if(e.getActionCommand() == "Potwierdz"){
            if(checkLoginData()){
                System.out.println("sprawdzDane() == true");
                login();
            }
            else{
```

```
                System.out.println("sprawdzDane() == false");
                JOptionPane.showMessageDialog(LoginPanel.this, "Bledne dane
uzytkownika", "Error", JOptionPane.ERROR_MESSAGE);
                return;
            }
        } else if(e.getActionCommand() == "Anuluj"){
            con.disconnect(true, null);
            System.exit(0);
        }
    }
}
```

Klasa TaskTableModel

```
package com.baselukasz.ui;

import com.baselukasz.core.Task;

import javax.swing.table.AbstractTableModel;
import java.util.List;

public class TaskTableModel extends AbstractTableModel {

    private static final long serialVersionUID = 1L;
    public static final int OBJECT_COL = -1;
    private static final int TITLE_COL = 0;
    private static final int STATUS_COL = 1;

    private String[] columnNames = { "Tytul", "Status zadania"};

    private List<Task> tasks;

    public TaskTableModel(List<Task> tasks) {
        this.tasks = tasks;
    }

    @Override
    public int getRowCount() {
        return tasks.size();
    }

    @Override
    public int getColumnCount() {
        return columnNames.length;
    }

    @Override
    public String getColumnName(int kol){
        return columnNames[kol];
    }

    @Override
    public Object getValueAt(int wie, int kol) {
        Task zad = tasks.get(wie);

        switch (kol){
            case TITLE_COL:
                return zad.getTitle();
            case STATUS_COL:
                if(zad.isStatus()){
                    return "tak";
                }
```

```
                else {
                    return "nie";
                }
            case OBJECT_COL:
                return zad;
            default:
                return zad.getTitle();
        }
    }

    @Override
    public Class<? extends Object> getColumnClass(int c){
        return getValueAt(0, c).getClass();
    }
}
```

Klasa TaskList

```
package com.baselukasz.ui;

import com.baselukasz.core.Employee;
import com.baselukasz.core.Task;
import com.baselukasz.core.User;
import com.baselukasz.dao.DBConnection;

import javax.swing.*;
import javax.swing.border.EmptyBorder;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.ArrayList;

public class TaskList extends JFrame implements ActionListener{

    private static final long serialVersionUID = 1L;

    private DBConnection con;
    private User user;
    private Employee employee;

    private final JPanel taskListPanel;
    // private final JScrollPane panelZadania;

    private JTable tasksTable;
    private JLabel lblLogged;
    private JLabel loggedUser;
    private JLabel lblFirstName;
    private JLabel lblLastName;
    private JLabel lblEmail;
    private JLabel lblPosition;

    private JButton btnDone;
    private JButton btnDescription;
    private JButton btnLogout;

    public static void main(String[] args) {
        DBConnection komInit = DBConnection.getInstance();
        loginWindow( komInit);
```

```
    }

    public TaskList(DBConnection c, User u){
        con = c;
        user = u;

        this.addWindowListener(new WindowAdapter() {
            @Override
            public void windowClosing(WindowEvent e) {
                con.disconnect(true, null);
                System.exit(0);
            }
        });

        setTitle("ListaZadan");

        setBounds(100, 100, 584, 300);
        getContentPane().setLayout(new BorderLayout());

        taskListPanel = new JPanel();
        taskListPanel.setBorder(new EmptyBorder(5,5,5,5));
        taskListPanel.setLayout(new BorderLayout());
        setContentPane(taskListPanel);

        JPanel panelGora = new JPanel();
        taskListPanel.add(panelGora, BorderLayout.NORTH);
        panelGora.setLayout(new BorderLayout());

        // Panel z nazwa uzytkownika
        JPanel panelUzytkownik = new JPanel();
        panelGora.add(panelUzytkownik, BorderLayout.NORTH);

        lblLogged = new JLabel("Zalogowany: ");
        panelUzytkownik.add(lblLogged);

        loggedUser = new JLabel(user.getUsername());
        panelUzytkownik.add(loggedUser);

        // Panel z danymi pracownika
        JPanel panelPracownika = new JPanel();
        panelGora.add(panelPracownika);

        lblFirstName = new JLabel();
        panelPracownika.add(lblFirstName);

        lblLastName = new JLabel();
        panelPracownika.add(lblLastName);

        lblEmail = new JLabel();
        panelPracownika.add(lblEmail);

        lblPosition = new JLabel();
        panelPracownika.add(lblPosition);

        // Panel z zadaniami
        JScrollPane panelZadania = new JScrollPane();
        taskListPanel.add(panelZadania, BorderLayout.CENTER);

        tasksTable = new JTable();
        panelZadania.setViewportView(tasksTable);
```

```
        // Dane do widoku
        loadEmployeeData();
        updateView();

        // Panel opcji
        JPanel panelMenu = new JPanel();
        taskListPanel.add(panelMenu, BorderLayout.SOUTH);

        btnDone = new JButton("Zrobione");
        btnDone.addActionListener((ActionListener) this);
        panelMenu.add(btnDone);

        btnDescription = new JButton("Opis");
        btnDescription.addActionListener((ActionListener) this);
        panelMenu.add(btnDescription);

        btnLogout = new JButton("Zrobione");
        btnLogout.addActionListener((ActionListener) this);
        btnLogout.setActionCommand("Wyloguj");
        panelMenu.add(btnLogout);
    }

    private TaskList() {
        this.taskListPanel = new JPanel();
    }

    static void loginWindow(DBConnection conInit){
        LoginPanel log = new LoginPanel(conInit);

        log.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
        log.setVisible(true);
    }

    public void loadEmployeeData(){

        String QueryPrac = "SELECT * FROM `Employees` WHERE user_id=
"+user.getId();
        ResultSet rsPrac = con.load(QueryPrac);
        if(rsPrac != null) {
            try {
                if(rsPrac.next()){
                    int id = rsPrac.getInt("id");
                    String imie = rsPrac.getString("first_name");
                    String nazwisko = rsPrac.getString("last_name");
                    String email = rsPrac.getString("email");
                    String position = rsPrac.getString("position");
                    employee = new Employee(id, imie, nazwisko, email,
position);
                    con.destroyRS(rsPrac);
                }
                else{
                    con.destroyRS(rsPrac);
                }
            } catch (SQLException e) {
                System.out.println("ListaZadanFirmy: Problem z
przetworzeniem danych");
                System.out.println("SQLException: " + e.getMessage());
                System.out.println("SQLState: " + e.getSQLState());
                System.out.println("Vendor Error: " + e.getErrorCode());
                return ;
            }
```

```
        }
        // Wczytaj dane z tabeli zadania
        String QueryZad = "SELECT * FROM `Tasks` WHERE employee_id= "
+employee.getId();
        ResultSet rsZad = con.load(QueryZad);
        if(rsZad != null) {
            try {
                ArrayList<Task> listazad = new ArrayList<>();
                while (rsZad.next()){
                    int id = rsZad.getInt("id");
                    String tytul = rsZad.getString("title");
                    String opis = rsZad.getString("description");
                    boolean status = rsZad.getBoolean("status");
                    listazad.add(new Task(id, tytul, opis, status));
                }
                employee.setTasks(listazad);
                con.destroyRS(rsZad);

            } catch (SQLException e) {
                System.out.println("ListaZadanFirmy: Problem z
przetworzeniem danych");
                System.out.println("SQLException: " + e.getMessage());
                System.out.println("SQLState: " + e.getSQLState());
                System.out.println("Vendor Error: " + e.getErrorCode());
                return ;
            }
        }
    }

    public void updateView() {

        lblFirstName.setText(employee.getFirstName());
        lblLastName.setText(employee.getLastName());
        lblEmail.setText(employee.getEmail());
        lblPosition.setText(employee.getPosition());

        TaskTableModel model = new TaskTableModel(employee.getTasks());
        tasksTable.setModel(model);
    }

    @Override
    public void actionPerformed(ActionEvent e ){
        if(e.getActionCommand() == "Wyloguj"){
            loginWindow(con);
            setVisible(false);
            dispose();
        } else if(e.getActionCommand() == "Opis"){

            // Wybrany wiersz
            int wiersz = tasksTable.getSelectedRow();

            // Jezeli nie zostal wybrany
            if (wiersz < 0){
                JOptionPane.showMessageDialog(TaskList.this, "Wybierz
zadanie", "Error",
                        JOptionPane.ERROR_MESSAGE);
                return;
            }

            // Wybierz zadanie
            Task task = (Task) tasksTable.getValueAt(wiersz,
```

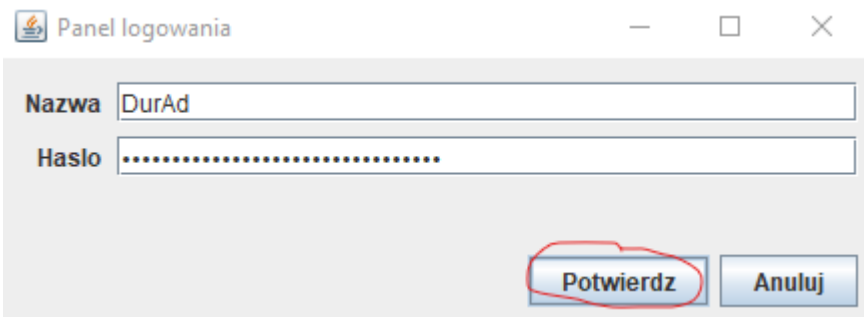
```
TaskTableModel.OBJECT_COL);

            TaskDescription opis = new TaskDescription(task);
            opis.setVisible(true);
        }
        else if(e.getActionCommand() == "Zrobione"){

            // Wybrany wiersz
            int wiersz = tasksTable.getSelectedRow();

            // Jezeli nie zostal wybrany
            if (wiersz < 0){
                JOptionPane.showMessageDialog(TaskList.this, "Wybierz
zadanie", "Error",
                        JOptionPane.ERROR_MESSAGE);
                return;
            }

            // Wybierz zadanie
            Task zad = (Task) tasksTable.getValueAt(wiersz,
TaskTableModel.OBJECT_COL);

            int nowyStatus = (!zad.isStatus()) ? 1 : 0;

            String Query = "UPDATE `Tasks` SET `status` = "+nowyStatus+"
WHERE Tasks.id = "+zad.getId()+";";

            if(con.update(Query)) {
                employee.getTasks().get(wiersz).setStatus(
!zad.isStatus());
                updateView();
            }
            else {
                JOptionPane.showMessageDialog(TaskList.this, "Blad przy
modyfikacji", "Error",
                        JOptionPane.ERROR_MESSAGE);
                return;
            }
        }
    }
}
```

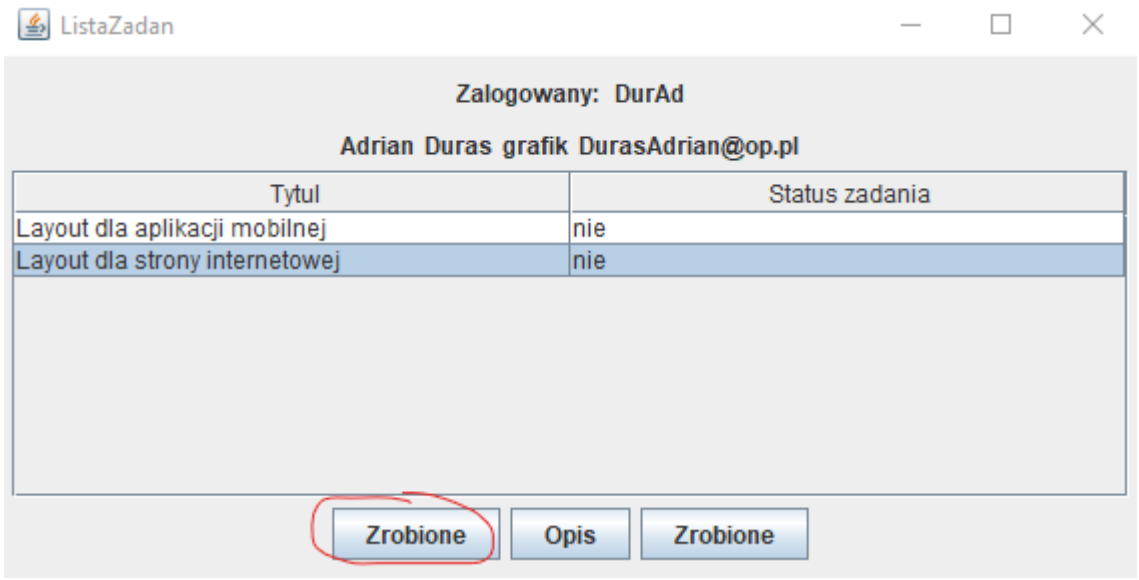
Klasa TaskDescription

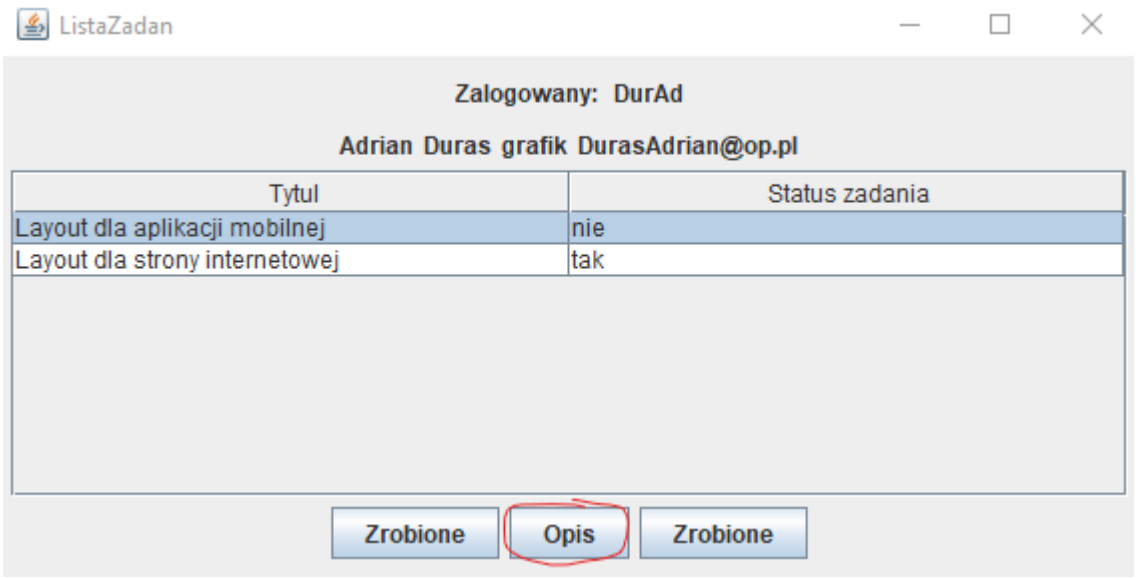
```
package com.baselukasz.ui;

import com.baselukasz.core.Task;

import javax.swing.*;
import javax.swing.border.EmptyBorder;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class TaskDescription extends JDialog implements ActionListener {

    private final JPanel panelDescription;
    private JLabel lblTitle;
    private JTextArea txtrDescription;
    private JButton btnClose;

    /**
```

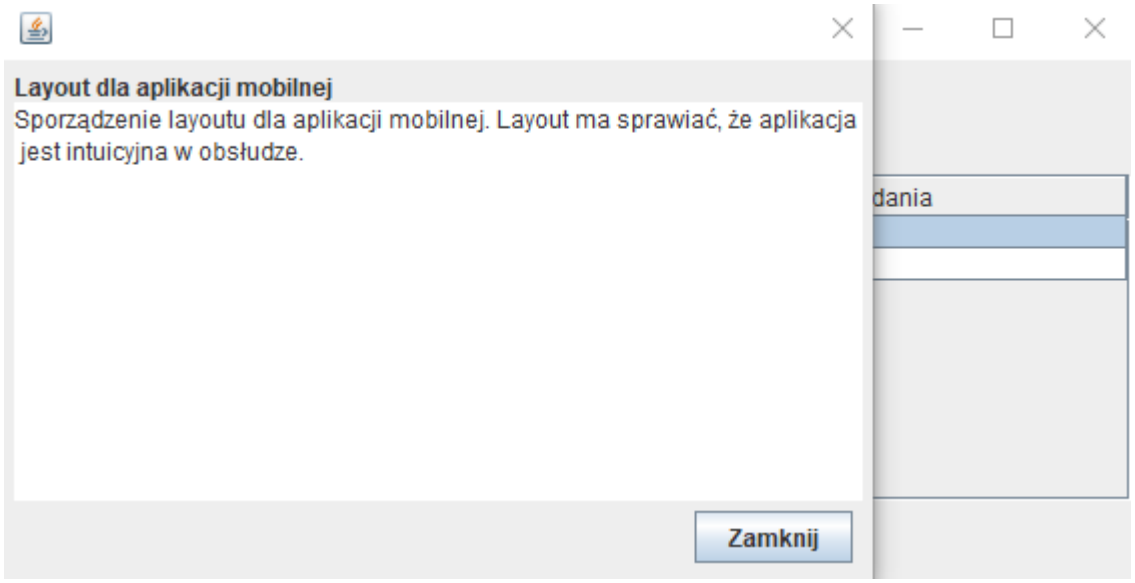
```
     * Create the dialog
     */
    public TaskDescription(Task task){

        setBounds(100,100,450,300);
        getContentPane().setLayout(new BorderLayout());
        panelDescription = new JPanel();
        panelDescription.setBorder(new EmptyBorder(5,5,5,5));
        getContentPane().add(panelDescription, BorderLayout.CENTER);
        panelDescription.setLayout(new BorderLayout(0,0));
        {
            lblTitle = new JLabel(task.getTitle());
            panelDescription.add(lblTitle, BorderLayout.NORTH);
        }
        {
            txtrDescription = new JTextArea(task.getDescription());
            txtrDescription.setLineWrap(true);
            panelDescription.add(txtrDescription, BorderLayout.CENTER);
        }
        {
            JPanel panelPrzyciskow = new JPanel();
            panelPrzyciskow.setLayout(new FlowLayout(FlowLayout.RIGHT));
            panelDescription.add(panelPrzyciskow, BorderLayout.SOUTH);
            {
                btnClose = new JButton("Zamknij");
                btnClose.setActionCommand("Zamknij");
                btnClose.addActionListener(this);
                panelPrzyciskow.add(btnClose);
            }
        }
    }

    @Override
    public void actionPerformed(ActionEvent e) {
        if (e.getActionCommand() == "Zamknij") {
            setVisible(false);
            dispose();
        }
    }
}
```

2. Wynik działania programu testowego



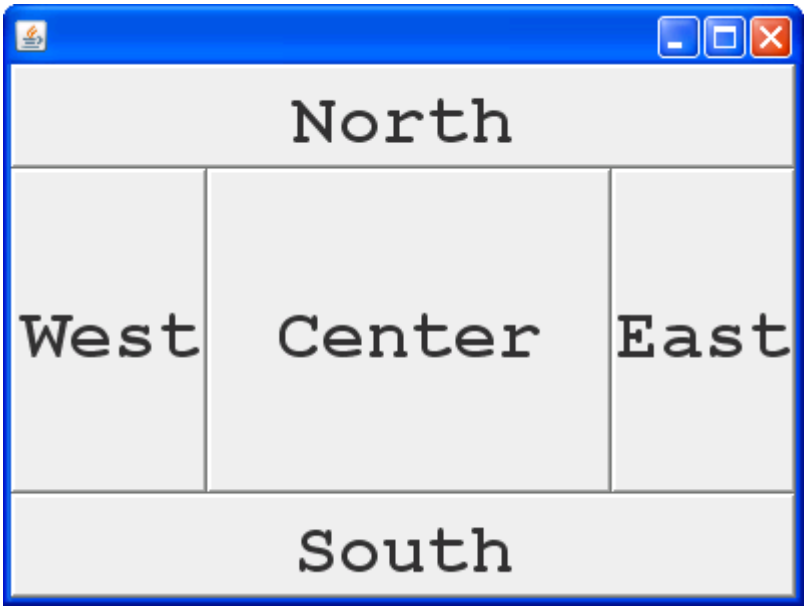

ListaZadan
Zalogowany: DurAd
Adrian Duras grafik DurasAdrian@op.pl
Tytul
Status zadania
Layout dla aplikacji mobilnej
nie
Layout dla strony internetowej
nie
Zrobione
Opis
Zrobione


ListaZadan
Zalogowany: DurAd
Adrian Duras grafik DurasAdrian@op.pl
Tytul
Status zadania
Layout dla aplikacji mobilnej
nie
Layout dla strony internetowej
tak
Zrobione
Opis
Zrobione

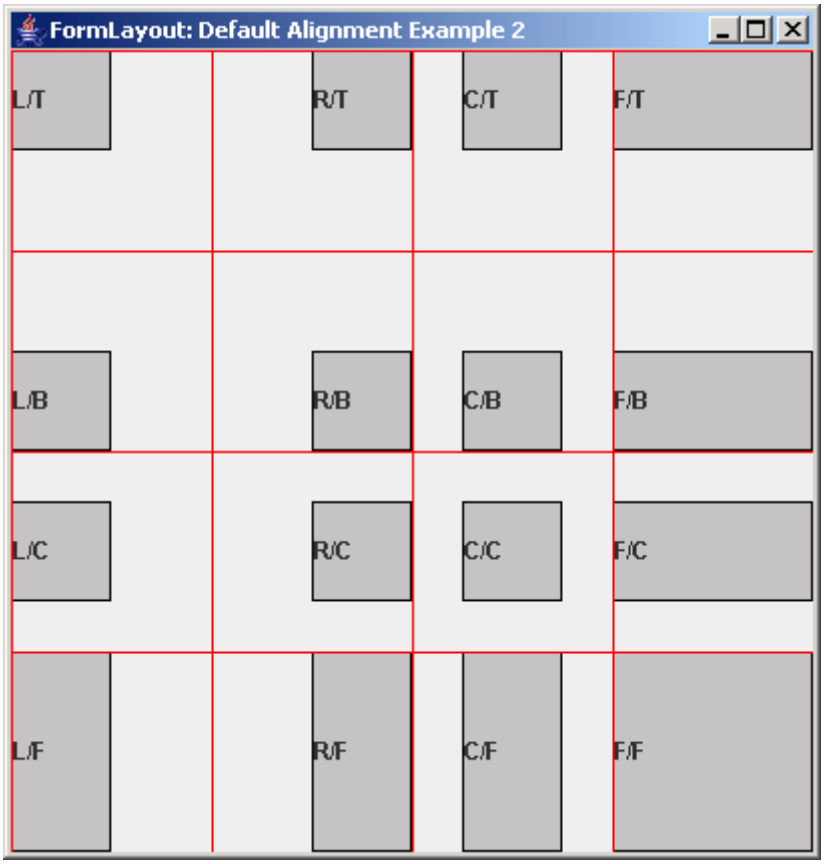

Layout dla aplikacji mobilnej
Sporządzenie layoutu dla aplikacji mobilnej. Layout ma sprawiać, że aplikacja jest intuicyjna w obsłudze.
Zamknij

3. Odpowiedzi na pytania:

3.1 Border Layout



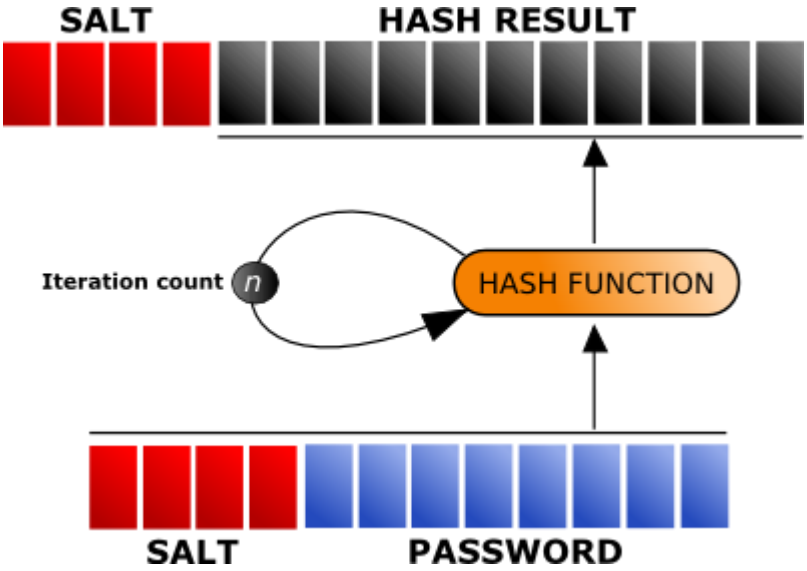
Form Layout



3.2 Content Pane jest podstawową warstwą layoutu w bibliotece Java Swing, służy do przechowywania różnych obiektów.

3.3 *Salt* jest to losowa sekwencja bitów, która jest generowana dla każdego nowego *hash.* Wprowadzając tę losowość chronimy naszą baze danych przed pre-kompilowaną liczbą hashy znaną jako *rainbow tables.*

3.4


SALT
HASH RESULT
Iteration count
n
HASH FUNCTION
SALT
PASSWORD